Mutua Universal

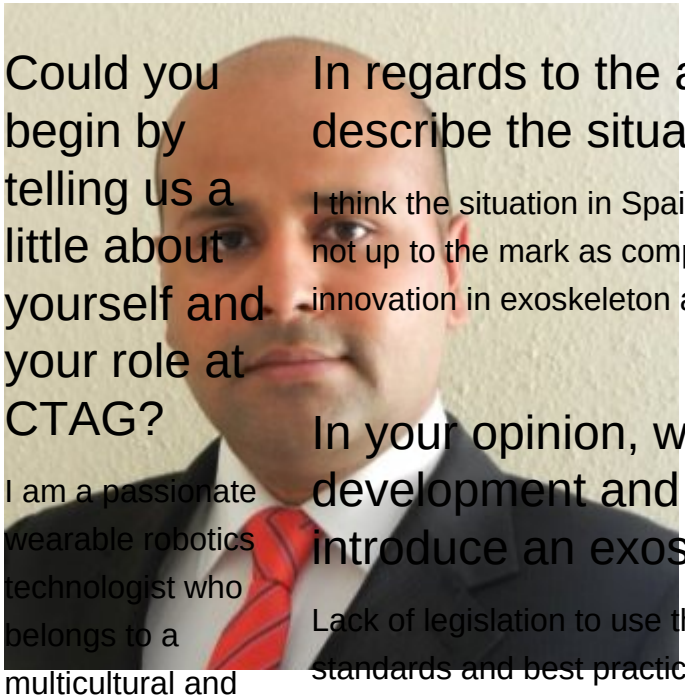
Entrevistamos a Jawad Masood, experto en robótica y exoesqueletos, de reconocido prestigio internacional

Jawad Masood, doctor ingeniero en robótica y experto en exoesqueletos con reconocido prestigio internacional. Ha trabajado como investigador en diversos centros tecnológicos de Italia, Suecia y Estados Unidos. Ahora trabaja en CTAG y lidera varios proyectos europeos sobre el testaje y adaptación industrial de los exoesqueletos.

Además, colabora junto a nuestro Laboratorio de Ergonomía, en proyectos de implementación de exos en PSA y es chairman del próximo Congreso sobre exoesqueletos que se celebrará en octubre.

Sobre Jawad Masood

Sobre la actualidad de los exoesqueletos



Could you begin by telling us a little about yourself and your role at CTAG?

I am a passionate wearable robotics technologist who belongs to a multicultural and diverse background. I have the privilege of working in three continents and I am the author of more than 20 international publications and patents. I started the role of Team Leader at CTAG in 2016 and since then I have been trying to find solutions to help the industrial workers to improve their job quality by testing different wearable technology solutions.

In regards to the advancement of this technology, describe the situation in Spain compared to other

I think the situation in Spain on technology exploitation is good. However, t not up to the mark as compared to other countries. We need to invest in ne innovation in exoskeleton and exosuit technologies.

In your opinion, what factors, facts or opinions hin development and integration of these devices? W introduce an exoskeleton in a company?

Lack of legislation to use these devices at EU stage as well as on local sta standards and best practices are missing who can define the safety require EU is heading towards the legislation as well as the standardization initiativ definitely improve the technology implementation and will serve as the trigg

Javier Masood, doctor ingeniero en robótica y experto en exoesqueletos con reconocido prestigio internacional. Ha trabajado como investigador en diversos centros tecnológicos de Italia, Suecia y Estados Unidos. Ahora trabaja en CTAG y lidera varios proyectos europeos sobre el testaje y adaptación industrial de los exoesqueletos.

Sobre tu visión del futuro

What do you see as the next evolution of industria the future? How do you image this technology in t

Además, colabora junto a Mutua Universal en el proyecto de implantación de exos en PSA y es chairman del próximo Congreso sobre exoesqueletos que se celebrará en octubre.

I foresee exoskeleton technology will eventually integrate in our industrial c gloves as modules. These modules will help the workers to improve their jo intelligent forecasts to optimize his health vs job.

What for you are the changes you would like most a magic wand to solve one technical problem that you, what would that be?

I fantasize the zero weight energy source that can help to energize the me weight to the structure.

Which would be your dreamed project to work?

I would like to work on the development of smart clothing that can work in a and complete the task.

Sobre WeRob2020 y la colaboración con Mutua Univ

How and where did you get involved in exoskeletons in the first place? What attracted you to this field?

I started my journey in this area at Italian Institute of Technology as Senior PostDoctoral Researcher where I was involved in the exciting project called RoboMate. Under the supervision of an excellent Leader Jesus Ortiz and Darwin Caldwell. My work involves the development of Parallel Elastic Actuator for an active exoskeleton that was designed to help industrial workers. Human in the Loop robotics [part of robotics that works with loops with commands] always attracts me because I believe robots as the helper of mankind not the replacement.

What is WeRob2020? How does it come about?

WeRob is the International Symposium on Wearable Robotics. It regularly researchers and stakeholders in wearable technologies. It is chaired by pio Spain Jose Pons. In 2018 WeRob, I and Jose discussed the possibilities of Vigo after my presentation of testing protocol which was developed in colla We continued discussing the idea within CTAG and management at CTAG idea to host the conference. In 2019 we formally accepted to host the WeR CSIC.

And, what is WearRAcon? What extra advantages WeRob?

WearRAcon is an emerging wearable robotics conference which has two p in Europe. It is heavily focussed on the commercial aspects of wearable te attracted important stakeholders from the world. From 2020 WeRob and W consensus to cooperate in hosting the events together. With inclusion of W address the right blend of research and commercial questions and attract t benefit from all aspects of the technology.

To finish with, knowing our line of work in this issu mission as a Mutua, which suggestions or guidanc us?

I think Mutua is working great in this area already. First of all, I suggest cor and motivation to improve the worker job quality. In addition, Mutua can inv using Exoskeletons can benefit the companies in terms of saving injury cos other countries where companies like Mutua can sponsor exoskeleton rese invest and see how this technology can benefit the companies [associated] These models/studies must be scientifically proven via research and devel

Brilliant, amazing! Thanks for the interview Jawad

Lee la entrevista en castellano

/sites/trabajo_saludable/es/publicaciones/202033/.content/documentos/Jawad-Mas

What projects are you currently working on?

On European level, I am currently working on a TestEd and Co-Guiding project which are Horizon 2020 projects funded under Eurobench [first european framework for the application of a benchmarking methodology for robotic systems] and COVR [macroproject whose objective is to improve the security of cobots -collaborative robots-]. On Global level, I am contributing to the Get2Excel [center of the research, benchmarking and standardization for exoskeleton technology that coordinates the contributions of different clusters from Europe, Asia, the Pacific area and America], Cost Action 16116 [scientific cooperation network

to connect research and innovation efforts on wearable robots to augment, assist or substitute human motor functions] and ASTM F48 [committee to develop voluntary consensus standards for exoskeletons and exosuits - robotic clothing-]. On Local level, I am involved in the technology support and consulting of various industrial sectors in Galicia ranging from manufacturing, logistic, construction and agri-food. I have the honor to work with great clients such as Groupe PSA, Navantia, Gamelsa, Faurecia and the list goes on.

What is the greatest challenge you face today?

The greatest challenge I face today in the area of Exoskeleton development is the adoption of the technology for the longer term. It is related to many complex sub issues such as absence of legislation at EU level as well as at local level, lack of standardization, no benchmarking [a method that allows companies to compare the characteristics and performance of existing products on the market] and shortage of scientific evidence that exoskeleton can reduce MSD for long term usage.

Sobre los exoesqueletos

In what ways do you think exoskeletons can be helpful in the companies?

Exoskeletons can serve as the medium of information exchange between the industrial environment and the worker. The exoskeleton can augment the skills of the worker and can help to prevent the Musculoskeletal disorders. Exoskeletons can be used for training new skills. All these factors can improve to the overall business of the industry and product quality.

At what point should a company consider introducing an exoskeleton for a workplace? Why should they implement this measure?

Today, exoskeletons are considered to be the easy solution to the complex ergonomic problems. But in reality this is not the correct approach. We must introduce exoskeletons by thoroughly studying the problem in the first place. Sometimes a simple modification of the workstation or process can solve the problem. In other cases, it is difficult to modify or change the workstation/process, this is the time we should start thinking of introducing the exoskeletons.

What kind of certifications or tests do exoskeletons pass before going on the market? Do they need some kind of validation?

This is a good question and part of debate in the exoskeleton community today. Today, we can find exoskeleton with CE marking that make those exoskeleton to be sold in the EU market. In my opinion, there must be third party validation and certification bodies who enforce the safety and performance requirements on the exoskeleton by implementing benchmarks [references that allow comparing the different products on the market]. In the EU, there are some projects that are focusing on this issue; one of them is called Eurobench.

What is the lifetime of an exoskeleton?

The lifetime of an exoskeleton is measured by the number of duty cycles it completes during operations. Every manufacturer has its own lifetime. So it is very difficult to generalize it.

Are you aware of unwanted effects on health due to the use of an exoskeleton?

No. I am not aware of any unhealthy effects that are scientifically proven. On the other side, I am also not aware of the health effects of using the exoskeleton for a long duration of time. I believe we must investigate and test these devices rigorously for a long duration of time to verify and validate exoskeleton health benefits or vice versa.

In your opinion, what business activities are likely to discover the usability and benefits of exoskeletons?

I think all the businesses that involve repetitive manual tasks can benefit from this technology. I think manufacturing, construction and logistics are the few already using this technology. However, healthcare workers and agri-food can get a lot of benefit out of this technology.